August 18, 2000

Comments of Environmental Defense on
the Aminosilanes Test Plan and Robust Summary
under the High Production Volume Chemical Initiative

Environmental Defense is a national non-profit environmental advocacy organization with approximately 300,000 members dedicated to the protection of human health and the environment by, inter alia, assuring that adequate toxicity data on widely used chemicals exist and are publicly available. Environmental Defense, together with the Environmental Protection Agency and the Chemical Manufacturers Association, jointly developed the framework for the High Production Volume Chemical initiative. We appreciate this opportunity to comment on the aminosilanes test plan and robust summary, as downloaded from http://www.epa.gov/chemrtk/viewsrch.htm.

The test proposal by the Silicones Environmental, Health and Safety Council for the aminosilanes is based on the contention that two aminosilanes (CAS 919-30-2 and 1760-24-3) are structurally similar and as a consequence would have the same toxicological properties. This contention is based on the following:

* correlation of physiochemical properties
* correlation of environmental fate
* correlation of ecotoxicity
* correlation of health effects

Following careful review of the proposal, we conclude that the database is inadequate to establish a firm structure-activity relationship for the two aminosilanes. For example, the correlation of health effects is based on low acute toxicity for both and a lack of genetic toxicity. This is clearly inadequate for justifying structure activity relationship and the summaries on ecotoxicity and environmental fate add little to the justification. So, while we strongly support the use of structure activity relationships in our efforts to reduce the use of animals in toxicological studies and to improve the quality and efficiency of health assessments, the justification falls far short of the mark (and would, for example, be rejected by the National Toxicology Program if this level of justification for common structure activity relationships were presented for two chemicals considered for study by the NTP).

Conspicuously absent, for example, is any data showing a common pattern of gene expression in in vitro or in vivo studies and some common exposure markers for the two aminosilanes.

In any event, however, existing data are adequate for acute toxicity and genetic toxicity, so additional testing for these endpoints is not needed. The same cannot be said for repeat dose and reproductive studies for both aminosilanes, based on the information provided in the robust summary. Accordingly, we believe that additional repeat-dose and reproductive studies must be conducted.

Thank you for this opportunity to comment.

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